
Experiences on Blue Gene at SDSC

Don Thorp
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SAN DIEGO SUPERCOMPUTER CENTER

at the UNIVERSITY OF CALIFORNIA, SAN DIEGO



Installation went very smoothly

- **Mon Dec 6**
 - Blue Gene single rack arrived & installation began
 - Service node (p275) running Suse 8
 - Front-end nodes (4 B80s) running Suse 9
 - SDSC supplied Cisco switch for Service Net
- **Mon Dec 13**
 - First user got on machine & started acceptance test
 - Machine had to run for three days straight
- **Fri Dec 17**
 - Second user got on machine & performed more tests
 - Machine was accepted

No Problems Next Three Weeks

- **Numerous mpirun bugs & features were found**
 - Classical benchmarks
 - HPC application
- **Security team ran audit**
 - Shared report with IBM

First Troubleshooting Episode during the Second Month

- **On Tue Jan 18 an unscheduled power outage occurred**
- **Two days later machine was brought back up**
 - Software was upgraded from Driver 480 to 521
 - Upper half complained of midplane error
 - Lower half ran until “transaction log” filled
- **Problems were resolved and appear due to**
 - Shutdown procedures corrupting DB2
 - Changed LAN switch setting after reboot; “portfast” disabled
 - Driver 521 software docs incomplete; 480 in /discovery
 - More bad customer cables
 - Increased transaction log buffer to accommodate data loads

Nearterm and Longterm Projects

- **Filesystem Improvements**
 - Replace existing single NFS server with 40 servers
 - GPFS client residing in IO Nodes
- **Tighten Security**
 - Some action required by IBM
 - Some changes in implementation
- **Large IO Benchmarking**
 - Measure maximum IO throughput
- **LoadLeveler**

Network Configuration

